City of Newton

David B. Cohen
Mayor

Department of Public Works
Engineering Division
Louis M. Taverna, P.E., City Engineer
Newton, MA 02459
Telephone (617) 796-1020 • Fax (617) 796-1051

Requirements for On-Site Drainage (Stormwater Management)

Subsurface on-site drainage* must be provided for all proposed structures (e.g., additions, garages, retaining walls, etc.) and other impervious surfaces (e.g., driveways, patios) per schedule below. The purpose of this policy is to mitigate the effects of increased stormwater runoff onto our public streets and adjacent private property due to development. For any project that meets this criterion, a Site Plan and drainage analysis must be prepared by a Mass. Registered Professional Engineer and submitted with your Building Permit Application.

Projects *increasing* impervious surface area by more than four (4) percent of a lot size, or that involve altering the landscape in such a way that may result in alteration of the runoff of surface water to abutting properties or erosion of soil, shall be reviewed by the City Engineer and/or Commissioner of Inspectional Services. For projects that trigger this criteria, provide the following:

1. Site grading and drainage plans shall include the following:
    a. Topographic contours (existing and proposed) and/or adequate number of spot elevations to indicate area to be drained to each inlet.
    b. Rim elevation and flow line elevation at each inlet and drainage structure.
    c. Sufficient contours or spot elevations (original and final) around perimeter of building(s) and other site features to indicate extent of any filling or excavation.
    d. The results of an on-site soil evaluation in accordance with Title V. Depict test hole/pit location on the plan (test hole should be within 25 feet of proposed infiltration structures). MADEP Form 11 – Soil Suitability Assessment for On-Site Sewage Disposal may be used as a guide for pertinent data to obtain.
    e. Plans and Calculations shall be signed and sealed by a Registered P.E.

2. Computation to support drainage structures** (i.e., dry wells, infiltrator systems):
    a. Based upon a design storm of 7.0 inches of precipitation in 24 hours (i.e., a Type III Rainfall, as defined by the U.S. Soil Conservation Service).
    b. Based upon the standard methodologies set forth in U.S. Soil Conservation Service Technical Release No. 55 *Urban Hydrology for Small Watersheds* and Section 4 of U.S. Soil Conservation Service, *National Engineering Hydrology Handbook.*
    c. Existing and proposed building sizes, driveways and natural/grassed areas.
    d. Total area (and sub areas as applicable) proposed to drain to each drywell or approved inlet.

3. The minimum size of drain pipes shall be 4” diameter PVC.

4. The runoff from driveways and parking lots shall be captured on-site via catch basin(s) with a 4’ sump or trench drain(s). A drainage structure with 4’ sump and a Neenah R-3705 gas trap outlet must be installed prior to connection to the on-site infiltration system.

5. The runoff from roofs is considered “clean” and may be collected via gutters and connected directly to the on-site infiltration system or recycled for irrigation purposes.

6. Erosion control (e.g., siltation fence or hay bales) shall be shown on plan.

7. If project is located within a wetlands/conservation and/or floodplain, then a filing must also be submitted to the Conservation Commission for their approval.

* Note: Drainage control structures may not be required if a Registered Professional Engineer licensed in Massachusetts submits Plans and Documentation certifying that there will be no increase in runoff (volume or peak flow) to abutting properties or to the City of Newton right-of-way.

**Subsurface soil conditions may necessitate alternative approaches to infiltration.

July 28, 2005
Revised Jan. 29, 2007